



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/539,845

02/09/2006

Rudolf-Giesbert Alken

82445

5014

23685

7590

03/06/2008

KRIEGSMAN & KRIEGSMAN
30 TURNPIKE ROAD, SUITE 9
SOUTHBOROUGH, MA 01772

EXAMINER

VALENROD, YEVGENY

ART UNIT

PAPER NUMBER

1621

MAIL DATE

DELIVERY MODE

03/06/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/539,845	Applicant(s) ALKEN, RUDOLF-GIESBERT	
	Examiner YEVEGENY VALENROD	Art Unit 1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 34-55 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 11 and 34-45 is/are rejected.
- 7) ☒ Claim(s) 2-10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/19/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/19/07 has been entered.

Rejection of claims 1-11, 42-48 and 57-63 under 35 USC 103(a) made over Putter et al. is withdrawn in view of applicant's remarks and amendments.

Rejection of claims 1, 34-41 and 49-55 under 35 USC 112, 1st paragraph, is withdrawn in view of applicants' remarks and amendments.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 49-55 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement.

A conclusion of lack of enablement means that, based on the evidence regarding

Art Unit: 1621

each of the factors below, the specification, at the time the application was filed, would not have taught one skilled in the art how to make and/or use the full scope of the claimed invention without undue experimentation.

These factors include:

- (A) The breadth of the claims;
- (B) The nature of the invention;
- (C) The state of the prior art;
- (D) The level of one of ordinary skill;
- (E) The level of predictability in the art;
- (F) The amount of direction provided by the inventor;
- (G) The existence of working examples; and
- (H) The quantity of experimentation needed to make or use the invention based on the content of the disclosure

The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicant claims a method for the prophylaxis of psychoses using the compound of claim 1. The compound of claim 1 is a deuterated L-DOPA derivative. Dewar et al. (*Neuro-Psychopharmacology & Biological Psychiatry* **1985**, 9(5-6), 675-680) disclose a deuterated L-DOPA derivative D₃-DL-dopa, which is shown to work in a similar manner as L-DOPA. While L-DOPA is well known for its use in treatment of Parkinson disease and other diseases where it's necessary to increase the level of dopamine, use of L-DOPA for treatment of psychosis is not recognized in the art. In fact, the art teaches away from use of L-DOPA for treatment of psychosis. For example, Weiner et al. (*Neurology*, **2000**, 54(7), p1538) show that treatment of Parkinson's disease with L-DOPA induces Psychosis. There are no examples in the specification where applicant demonstrates treatment of psychoses

Art Unit: 1621

using the compound of claim 1 or exemplifies involvement of compounds of claim 1 in a biological pathway which prior art has recognized as being involved with the onset of psychoses. Since Dewar et al have demonstrated that D₃-DL-dopa functions in a manner similar to L-DOPA, and D₃-DL-dopa is a compound of the instant invention, one of ordinary skill would expect the deuterated derivatives of L-DOPA instantly claimed to aid in the onset of psychoses, and not have a therapeutic effect as is instantly claimed.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 11, 34-36 and 41 rejected under 35 U.S.C. 102(b) as being anticipated by Dewar et al. (*Neuro-Psychopharmacology & Biological Psychiatry* **1985**, 9(5-6), 675-680).

Dewar et al. disclose tri deuterated L-DOPA (D₃-DL-dopa), wherein the deuterium atoms are in α,α,β -positions of L-DOPA (page 675, lines 12-13 of the Introduction). The disclosed compound meets the structural limitations of claims 1 and 11.

Dewar et al also disclose pharmaceutical compositions (page 676 Section titled “methods”, paragraph 2). They disclose treating L-DOPA with HCl and NaOH which would invariably form salts with L-DOPA.

Dewar et al disclose administering D₃-DL-dopa to animals with pretreatment with decarboxylase inhibitor (Paragraph 3 of methods) and measuring dopamine concentrations (paragraph 4 of methods).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 34-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dewar et al. (*Neuro-Psychopharmacology & Biological Psychiatry* **1985**, 9(5-6), 675-680).

Scope of prior art

Dewar et al teach D₃-DL-dopa and its ability to replenish dopamine levels as is commonly practiced with L-DOPA (page 675, introduction, lines 1-2). Dewar et al also recognize the need to inhibit enzymes including decarboxylase (page 676, methods paragraph 3), monoamine oxidase (page 677, discussion, paragraph 1) and β -hydroxylase (page 677, discussion paragraph 2). Dewar et al only utilize decarboxylase inhibitor in their experiments.

Ascertaining the difference between prior art and instant claims

Instant claims are directed to methods for treatment of dopamine deficiency disease. While Dewar et al demonstrate the ability of D₃-DL-dopa to increase levels of dopamine in rats (see page 677, figure 1), they do not disclose an actual method of treatment using D₃-DL-dopa.

Obviousness

One of ordinary skill in the art at the time the invention was made would have motivated by the disclosure of Dewar et al to utilize D₃-DL-dopa in treatment of dopamine deficiency diseases. Dewar et al. have demonstrated a faster rate of increase in dopamine concentration when compared to the L-DOPA (see figure 1). They have also recognized the need for enzyme inhibitors to inhibit the activity of β -hydroxylase, decarboxylase and monoamine oxidase. In order to avoid digestion of the D₃-DL-dopa by the enzymes one of ordinary skill would have been motivated to utilize inhibitors in treatment where D₃-DL-dopa is utilized and in pharmaceutical compositions comprising D₃-DL-dopa. Such inhibitors are known in the art (statement by the applicant in the specification, page 1 paragraph 3 through page 2 paragraph 2, is treated as admission of prior art). Combining D₃-DL-dopa with enzyme inhibitors to prepare pharmaceutical compositions and subsequent use of the said composition to treat dopamine deficiency diseases is therefore obvious.

Claim objections

Claims 2-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Search of prior art has failed to uncover compound according to claims 2-10. Closes art is Dewar et al. (sited above), however Dewar et al. do not disclose compound where the phenyl ring is substituted with deuterium. Such a modification is not obvious.

Conclusion

Claims 1-11 and 34-55 are pending

Claims 1, 11 and 34-55 are rejected

Claims 2-10 are objected to.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yevgeny Valenrod whose telephone number is 571-272-9049. The examiner can normally be reached on 8:30am-5:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yvonne Eyler can be reached on 571-272-0871. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1621

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Yevgeny Valenrod
Patent Examiner
Technology Center 1600

/SHAIENDRA - KUMAR/
Primary Examiner, Art Unit 1621